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2700

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF:	Hickman *et al.*	EXAMINER:	Dinh, Dung C.
APPLICATION NO.:	08/810,679	ART UNIT:	2153
FILED:	February 28, 1997	CONF. NO:	9229

FOR: **METHOD AND APPARATUS FOR COMPUTING WITHIN A WIDE AREA NETWORK**

Transmittal of Appeal Brief

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Respectfully submitted,

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

EX PARTE Hickman et al.

Application for Patent

Filed February 28, 1997

Serial No. 08/810,679

FOR: METHOD AND APPARATUS FOR COMPUTING WITHIN A WIDE AREA NETWORK

APPEAL BRIEF

CERTIFICATE OF MAILING
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Paul L. Hickman

TABLE OF CONTENTS

I. REAL PARTY IN INTEREST

The real party in interest is G&H Nevada-Tek, the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

This appeal may be related to the appeals of: USSN 08/810,620; USSN 08/798,704; and/or USSN 08/793,703.

III. STATUS OF THE CLAIMS

Claims 1 and 21-31 are pending in this application. All claims have been rejected by the Examiner and are the subject of this Appeal.

IV. STATUS OF THE AMENDMENTS

A Notice of Appeal was filed after the claims were twice rejected. There was no Final Rejection of the claims in this case.

V. SUMMARY OF THE INVENTION

Embodiments of the claimed invention permits the availability of computers on the Internet to serve as host computers for any Internet client. A client computer can take over virtually the entire functionality of a host computer over the Internet or other wide area network. More particularly, the claimed invention permits a host computer system to be run as a "virtual machine" through a network browser such as a Netscape® or Internet Explorer® network browser. Clients can choose computers of the appropriate type, power and cost for their desired application programs. For example, a client could run a Macintosh application on a Macintosh host over the Internet, or a run an old DOS program on a legacy 80286 host computer over the Internet.

With network-accessible host computers great computational and storage efficiencies are obtained. For example, since a typical stand-alone personal computer is only used a few hours of the day, by having network-accessible host computers it is possible to reduce the total number of computers required to service the many individual users. For example, computers that would normally be idle in one time zone can be used by users in another time zone. Furthermore, any user with access to a computer having a network browser would be able to control a powerful network computer from any location having Internet access.

Preferably, after a client selects an appropriate host computer, a connection is made between the client computer and the host computer. This connection can be directly between the two computers, or through one or more intermediary computers. It can be effectuated, for example, by passing an appropriate URL to the client computer. Once connected, the client computer controls the host computer essentially as if its keyboard and its mouse were the input devices of the host computer. Furthermore, the client computer display images on its monitor essentially as if its monitor were the monitor of the host computer. As such, the host computer becomes a multi-purpose, virtual machine of a user of the client computer.

VI. ISSUES

The issues presented in this appeal is whether the rejection of the claims as set forth by the Examiner is proper. The issues are therefore:

A. Are claims 1 and 21-31 properly provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 21-31 of copending Application No. 08/798,704?

B. Are claims 1 and 21-31 properly rejected under 35 U.S.C. 103(a) as being unpatentable over Bartholomew et al. (U.S. Patent No. 4,939,509) and further in view of Frese et al. (U.S. Patent No. 5,909,545)?

VII. GROUPING OF THE CLAIMS

Applicant proposes that each of the claims stands or falls on its own, with the exception of the following two groups of claims to stand or fall together:

A. Group 1, Claims 1, 21, 23 and 24 stand or fall with claim 1;

B. Group 2, Claims 25-27, stand or fall with claim 25; and

C. Group 3, Claims 29-30, stand or fall with claim 29

VIII. THE CITED ART

A. Bartholomew et al. (U.S. Patent No. 4,939,509)

Bartholomew et al. in U.S. Patent No. 4,939,509 (hereafter "Bartholomew") teaches an arrangement for data conferencing either multiple computers, or multiple terminals with a computer, and includes software for communicating keystrokes from conference participants to an application program that is the object of the conference, and for communicating display signals from the application program to the participants. In one embodiment, a first program executing on a first computer transmits first computer-generated keystrokes to a second computer, and displays on the first computer images received from the second computer, while a second program co-resident with the application program on the second computer enters received first computer keystrokes into the second computer, and sends second computer-generated images for display to the first computer. In a second embodiment, a

program executing on a UNIX.RTM. system-based computer receives keystrokes from connected terminals and sends them to the application program, and receives images from the application program and transmits them to the terminals.

B. Frese, II et al. (U.S. Patent No. 5,909,545)

Frese, II et al. in U.S. Patent No. 5,909,545 (hereafter "Frese") describes a system and method is disclosed for remotely controlling an *application program* over a network. The system includes an application interception module and remote display module. The remote display module is transported across the network and executed on the user system in response to a user's request to provide on-demand remote control of an application program. The application interception module captures an I/O stream generated by an application program, converts it to remote control protocol messages and transports them across a network to the remote display module executing in the user system. The remote display module converts the remote control protocol messages to system calls compatible with the operating system environment for the users computer. Likewise, the remote display module converts system calls to the local resource interface in the user's computer to remote control protocol messages which are transported across the network to the application interception module. The application interception module interface converts the remote control protocol messages to system calls for the application program. In this manner, output from the application program is provided to the user's computer and input actions at the user's computer are provided to the application program. Preferably, the remote display modules and application programs are presented through HTTP servers over a network to a user's system which uses a browser having a JAVA interpreter to execute the remote display module and convert the remote control protocol messages.

IX. ARGUMENTS

A. Claims 1 and 21-31 are not properly provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 21-31 of copending Application No. 08/798,704

Applicant respectfully traverses this provisional rejection which compares a process claim to an apparatus claim. Nonetheless, Applicant would agree to the filing of a

terminal disclaimer should the claims of copending Application No. 08/798,704 be allowed and issued.

B. Claims 1 and 21-31 are not properly rejected under 35 U.S.C. 103(a) as being unpatentable over Bartholomew et al. (U.S. Patent No. 4,939,509) and further in view of Frese et al. (U.S. Patent No. 5,909,545)

1. Group 1

A key differentiation between Applicant's claimed inventions of Group 1 (claims 1, 21, 23 and 24) and that of the combined disclosures of Bartholomew and Frese is that, for the first time, a client computer having nothing more than, for example, a Java-enabled browser can *take over virtually the entire functionality* of a host computer over, for example, the Internet. That is, this is not the remote control of an application program but, rather, a system wherein:

> **... input devices of said client computers can be used to generate inputs to said host computer as if the input devices were connected to said host computer, and such that image information generated by said host computer and *sent in portions containing incremental changes* can be viewed on a display of said client computer as if it was connected to said host computer. Applicant's Claim 1, emphasis added.**

This concept of taking over virtually the entire functionality of the computer runs throughout Applicant's disclosure. *See*, for example,

> **The present invention permits *virtually the entire functionality* of a computer system to be made accessible to a wide area network such as the Internet. More particularly, the present invention permits a computer system to be run as a "virtual machine" through a web page provided at a web site on the World Wide Web (WWW). This permits the computing functionality to be distributed across a wide area network, such as the Internet. Applicant's Specification, page 5, lines 27-28, *emphasis added.***

and further at

> **In FIG. 1, a system 10 for controlling a computer over a wide area network such as the Internet 12 includes a number of computer systems, such as computer systems ("machines") 14, 16, and 18, that are coupled to the Internet 12. By implementing the processes, apparatus, and systems of the present invention, one or more of the computer systems 14-18 can monitor**

and/or access *virtually the entire functionality* of any other computers 14-18 connected to the Internet 12. It should also be noted that, for the most part, any reference to the Internet also would apply to a private Intranet that uses the Internet's TCP/IP protocols, or any other network that uses TCP/IP compatible protocols. Applicant's Specification, page 12, lines 17-25, *emphasis added.*

Because a user can take over virtually the entire functionality of a host computer, the experience of the user of the client machine is virtually no different than if he were sitting in front of the host computer and using the host computer's display, keyboard and/or mouse. Because of this, virtually all resources of the host computer are available to the user of the client computer, including the ability to open multiple windows, access the operating system commands, run multiple programs simultaneous, browse the Internet, etc., i.e. virtually anything that can be done with the host computer.

In stark contrast, both Bartholomew and Frese only allow for the remote control of a specified application program. Neither Bartholomew nor Frese can allow, or would allow, the virtually the entire functionality of the host computer system to be taken over. It is very clear that both Bartholomew and Frese will not allow full access to virtually the entire functionality of the host computer systems, allowing them to, for example, access the operating system or any program or utility that might be on or connected to the host computer.

In Bartholomew, it is clear that the system is designed for collaboration on an application program specified by the user of an "application PC." The user of the application PC decides that he wants to collaborate on a program with a user on a "conference PC." The user of the application PC then alerts a user on a conference PC that he wishes to collaborate by, for example, calling the user of the conference PC on the telephone. The user of the conference PC runs a program on the conference PC, and the user of the application PC runs a program on the application PC to connect with the program on the conference PC. Then both the user of the application PC and the conference PC can use the application program designated by the user of the application PC in a simultaneous manner. *See*, for example:

A program 22 which users of PCs 1 and 2 wish to conference is located on one of the PCs, shown illustratively as PC 1. Program 22 may be any program, for example, an application program such

as a spread sheet or an editor. The PC on which program 22 resides is referred to as the application PC.

Program 22 is co-resident on application PC 1 with two other pieces of software. One is a program 20 that enables application PC 1 to function as a time-sharing computer system. Program 20 is illustratively the AT&T Concurrent Context Switch (CCS) program. The other program 21 is a primary conferencing program, described further below. Bartholomew, col. 3, lines 28-40.

and further

Primary conferencing program 21 is a communications package that calls conference PC 2, performs initial handshaking, and handles the conferencing requirements for application PC 1.

In order to accept a conference call from application PC 1, conference PC 2 must be running secondary conference program 23. Illustratively, a communication, such as a person-to-person call, is required between the users of PCs 1 and 2 so that the user of PC 2 knows to start program 23 running. Bartholomew, col. 4, lines 12-22.

It is therefore clear that Bartholomew does not contemplate that a client computer can take over the virtually functionality of a host computer. The system disclosed by Bartholomew simply allows a "client computer" to simultaneously access an application program running on a "host computer", *and at the express invitation of the user of the host computer*.

It should further be noted that Bartholomew does not even allow the functionality of the designated application program to be taken over by the "client computer." That is, there is necessarily a user at the "host computer" who is simultaneously working on the designated application program. As such, the "client computer" of Bartholomew *does not* take over even the entire functionality of the designated application program running on the "host computer."

Frese does not cure the deficiencies of Bartholomew with respect to claim 1. Nonetheless, it is first noted that Frese has a priority date of January 19, 1996, while the present invention claims an earliest priority date of March 6, 1996. Applicant therefore reserves the right to swear behind Frese, but is firmly convinced that there is no need to do so, as explained below.

Frese permits a user (at a client computer) to test and evaluate application programs. The user *is not* given full control over the computer hosting the application program, and the application programs provided for evaluation purposes were specifically designed for remote execution, as noted by the Examiner. As such, Frese, like Bartholomew, does not include essential limitations of the invention as claimed by Applicant. *See*, for example:

> **The system 10 includes a remote control service publisher server 12 which is coupled through a network 14 to a user computer 16. User system 16 may be coupled through an access server (not shown) such as that provided by a Internet service provider. Coupled to RCSP 12 and to network 14 is a remote application server (RAS) 20. Remote application server 20 is used to launch an application program 22 with a corresponding application interception module (AIM) 24 in response to a request from user system 16. Frese, col. 6, lines 40-49**

Therefore, it is clear that Frese is directed to controlling an evaluation copy of an application program. *The system of Frese is in no way designed to or capable of taking over the functionality* of a remote (host) computer, thereby creating a general purpose "virtual machine." Therefore the combination of Bartholomew and Frese still does not teach this limitation of Applicant's claim.

Furthermore, both Bartholomew and Frese teach away from allowing virtually the entire functionality of their "host computer" to be taken over by a "client computer." A user of a Bartholomew "host computer" invites a user of a "client computer" to collaborate on a specific application program (*e.g.* a spreadsheet program). The "host computer" of Frese only allows a potential buyer on a "client computer" to test demonstration-version or time-limited application programs prior to committing to a purchase. Frese certainly would not want a the potential customer to *take over virtually the entire functionality* of the "host computer."

It is therefore clear that the claims of Group 1 are patentable under 35 U.S.C. 103 over Bartholomew in view of Frese. Applicant respectfully requests that the Examiner be reversed with respect to the rejections of claims 1, 21, 23 and 24.

2. Claim 22

It should be noted that claim 22 is indirectly dependent upon claim 1, and is therefore patentable for at least the same reasons as set forth with respect to Group 1. Claim 22 includes the limitation that the information provided for the browser window on the client machine *includes web page information*. Because Applicant's invention allows a user of a client machine to take over virtually the entire functionality of the host machine, it serves as a general purpose computer *having Internet capabilities itself*. That is, a user at a client machine can run a browser program on the host machine *as a general purpose computer*. *See*, for example:

> **Also, the term "machine" will refer generically to a number of types of digital devices, but will usually refer to a *general purpose computer*. Applicant's Specification, page 13, lines 5-6, *emphasis added.***

Of course, one of the major applications for a general purpose computer is for Internet access. As noted above, neither Bartholomew nor Frese would or could allow Internet access through a "host computer" for a user of a "client computer." Applicant, however, specifically discloses that a computer user can access the Internet through a general purpose computer. For example, Applicant discloses:

> **A computer user can "browse", i.e. navigate around, the WWW by utilizing a suitable web browser and an Internet service provider. ... When a computer user "calls up" a *web page*, a *variety of information* may be displayed on the screen as determined by the entity maintaining the web site. HTML supports text and graphics, and permits "hyperlinks" that allow visitors to the web site to "jump" to (i.e. access and display) other web pages on the WWW. ... In this fashion, the World Wide Web can be navigated and browsed for information in an intuitive, linked, and easy to use fashion, and information on computers from around the world may be accessed easily and intuitively. Applicant's Specification, page 3, lines 14-32, *emphasis added.***

It is therefore clear that claim 22 adds a limitation that is not even possible to achieve in either Bartholomew or Frese: the ability of a user at a client machine to use a host machine to access the Internet for browsing. Applicant therefore respectfully requests that the Examiner be reversed in his rejection of claim 22 for at least this additional reason.

3. Group 2, Claims 25-27

Claim 25 specifies process that is analogous to the operation of the apparatus claimed in claim 1. As such, the arguments that are presented with respect to claim 1 are incorporated herein by reference.

Therefore, as explained before with respect to Group 1, a key differentiation between Applicant's claimed inventions of Group 2 (claims 25-27) and that of the combined disclosures of Bartholomew and Frese is that, for the first time, a client computer having nothing more than, for example, a Java-enabled browser can *take over virtually the entire functionality* of a host computer over, for example, the Internet.

Because a user can take over virtually the entire functionality of a host computer, the experience of the user of the client machine is virtually no different than if he were sitting in front of the host computer and using the host computer's display, keyboard and/or mouse. Because of this, virtually all resources of the host computer are available to the user of the client computer, including the ability to open multiple windows, access the operating system commands, run multiple programs simultaneous, browse the Internet, etc., i.e. virtually anything that can be done with the host computer.

In stark contrast, both Bartholomew and Frese only allow for the remote control of a specified application program. Neither Bartholomew nor Frese can allow, or would allow, the virtually the entire functionality of the host computer system to be taken over. It is very clear that both Bartholomew and Frese will not allow full access to virtually the entire functionality of the host computer systems, allowing them to, for example, access the operating system or any program or utility that might be on or connected to the host computer.

In fact, as noted above, both Bartholomew and Frese teach away from allowing virtually the entire functionality of their "host computer" to be taken over by a "client computer." A user of a Bartholomew "host computer" invites a user of a "client computer" to collaborate on a specific application program (*e.g.* a spreadsheet program). The "host computer" of Frese only allows a potential buyer on a "client computer" to test demonstration-version or time-limited

application programs prior to committing to a purchase. Frese certainly would not want a the potential customer to *take over virtually the entire functionality* of the "host computer."

It is therefore clear that the claims of Group 2 are patentable under 35 U.S.C. 103 over Bartholomew in view of Frese. Applicant respectfully requests that the Examiner be reversed with respect to the rejections of claims 25-27.

4. Claim 28

Claim 28 is indirectly dependent upon claim 25, and therefore is patentable for at least the same reasons as set forth with respect to Group 2, above. In addition, claim 28 adds the limitation of "transmitting encrypted information about said computer's screen over said TCP/IP protocol network." As explained below, this limitation is not only not found in either Bartholomew or Frese, but both of these references clearly teach away from the provision of encryption of computer screen information.

Encryption of information sent over an open network is used to prevent unauthorized persons from accessing confidential information. Bartholomew operates on a private branch exchange ("PBX") which is, by definition, creates a point-to-point connection between the two computers. As such, no one other than the user of the "host computer" and the "client computer" would have access to the video data, and there would be no need to encrypt the video data to maintain its confidentiality. In fact, since the video data is shared in Bartholomew between the computers on a real-time basis, the delays of encryption would teach away from encrypting the video data sent over the PBX of Bartholomew. *See*, for example:

> **FIG. 1 shows an illustrative computer system, comprising a pair of personal computers (PCs) 1 and 2 interconnected for communication through a private branch exchange (PBX) 7. Illustratively, PCs 1 and 2 are each an AT&T PC 6300 personal computer operating under the control of the MS-DOS operating system, and PBX 7 is an AT&T System 85 PBX. PCs 1 and 2 are connected to PBX 7 by communication links 5 and 6, respectively, which are, for example, conventional telephone lines. PCs 1 and 2 are coupled to links 5 and 6, respectively, by interfaces 3 and 4, respectively, which interface PCs 1 and 2 to the communication protocol used by PBX 7 on the links. Any number of interfaces are suitable for this purpose. For example, each interface 3 or 4 comprises an AT&T PC/PBX board whose software is modified to permit direct communication therewith by a program executing**

on the attached PC. Alternatively, each interface 3 or 4 comprises a modem connected between a serial port of the PC and the link. This latter arrangement is assumed to exist in the illustrative embodiment described below. Bartholomew, col. 3, lines 7-27.

Since Bartholomew teaches a secure, point-to-point connection between the two computers, encryption is not necessary, and would only add to the complexity and degrade the performance of the system.

Frese operates over the Internet, which is public. However, Frese, would not want to encrypt the video information being sent over the Internet for at least two reasons: 1) it might encourage potential customers to use the test programs for actual, confidential work; and 2) it would most certainly slow down the test process, making the potential customer less likely to be happy with, and purchase, the application program. There is absolutely no suggestion in Frese that encryption should be used for the video data, and the very purpose of Frese teaches away from encrypting the video data sent over the Internet. For example, in setting the context for his invention, Frese notes:

In an effort to fully inform the potential purchaser about the program being offered, some manufacturers offer demonstration versions of their products. These demonstration versions may contain prepared examples of the capabilities of the offered software or they may contain a fully operational version with a time deactivation feature. The time deactivation feature permits the program to execute for only a limited time following its installation. Frese, col. 1, lines 35-42.

There is no need to encrypt demonstration versions of the products with Frese. In fact, the purpose of providing demonstration versions of the software would be frustrated by the use of encryption.

It is therefore clear that claim 28 is patentable over Bartholomew in view of Frese for at least this reason as well. Applicant respectfully requests that the rejection of this claim be withdrawn.

5. Group 3, Claims 29-30

Claim 29 is dependent upon claim 28, and is patentable over the prior art for at least the same reasons as set forth above. In addition, claim 29 adds the limitation that for

the "screen information is transmitted once a fixed period of time has transpired since the previous transmittal of said host computer's screen information. As noted below, neither Bartholomew nor Frese teach this limitation and, in fact, teach away from this limitation.

With Bartholomew, the screen information is shared between the two computers on a real-time basis. That is, the screens of the "host computer" and the "client computer" are updated based upon a line-by-line checksum to see if any line of the screen of PC 1 ("the host computer) has changed. *See*, for example:

> **Assuming that interfaces 3 and 4 each comprise a modem, if call establishment is successful at step 304, program 21 computes and stores, at step 308, a line-by-line checksum on the display of screen of PC 1 as represented by contents of screen buffer 101, for later use in determining whether any changes have been made to the screen's display. Bartholomew, col. 4, line 63 to col. 5, line 1.**

Likewise, in Frese the screen is updated when there is a change at the "host computer." *See*, for example:

> **Where components of the logical display model for AIM 24 do not have a corresponding element in the logical display model of RDM 18, PTOM 26 must simulate the logical display model for AIM 24. That is, PTOM 26 must generate responses or provide data parameters to AIM 24 which conform to the logical display model for AIM 24. Any changes which should be reflected in the output at user system 16 must be provided in remote control protocol messages to RDM 18. This may be achieved, for example, by having PTOM 26 maintain a binary image of the output display or graphical user interface (GUI) at user system 16. Changes made to this image as a result of system calls from AIM 24 which do correspond to an system call in RDM 18 are encapsulated for transport to and displayed at user system 16. Frese, col. 12 lines 15-29.**

It is therefore clear that neither Bartholomew nor Frese teach a system where "screen information is transmitted once a fixed period of time has transpired" as claimed by Applicant. In fact, both Bartholomew and Frese teach away from this limitation. The rejection of the claims of Group 3 is therefore clearly in error and should be reversed.

6. Claim 31

Claim 31 is dependent upon claim 26 and, therefore, is patentable over Bartholomew and Frese for at least the same reasons as set forth with respect to the claims of Group 2, above. In addition, claim 31 is patentable over the cited art for adding new limitations not disclosed or contemplated by Bartholomew or Frese. For example, claim 26 includes the limitation that client information is transmitted to the host computer that includes "client interests, client resolution information, and client computer events."

Bartholomew certainly does not teach these limitations. In fact, the words "resolution" and "events", and the term "client interests" do not even appear in Bartholomew's specification or claims. This is because none of these limitations have any application to the technology disclosed by Bartholomew. Screen resolution is not an issue, since Bartholomew is sharing an application program over a PBX to two presumably similar if not identical computer systems. Client interests are irrelevant, since this is a "push" system wherein the "host computer" initiates a program sharing with a "client computer." Frese fails to rectify the deficiencies of Bartholomew.

Applicant therefore respectfully requests that the Examiner's rejection of claim 31 to be reversed for at least this reason as well.

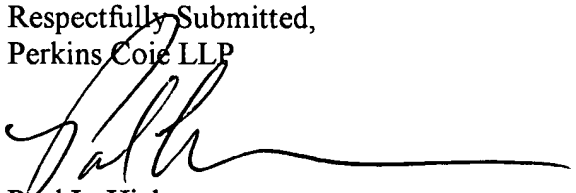
///

///

X. CONCLUSION

As noted, neither of the cited art references, either alone or in combination, can be said to render obvious the appealed claims. Accordingly, Applicant believes the rejections to be in error, and respectfully requests the Board of Appeals and Interferences to reverse the Examiner's rejections of the claims on appeal.

Respectfully Submitted,
Perkins Coie LLP



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APPENDIX A - THE APPEALED CLAIMS

1. A network accessible computer comprising:

a central processing unit;

memory coupled to the central processing unit; and

an interface coupling said central processing unit to a TCP/IP protocol network;

wherein said central processing unit implements a host computer program stored in said memory which permits it to operate as a network-accessible host computer for a client computer coupled to said TCP/IP protocol network, wherein said client computer is operating a browser program having a browser window and a client program transmitted to said client computer via said network to operate in conjunction with said browser program to communicate with said host computer program, wherein input devices of said client computers can be used to generate inputs to said host computer as if the input devices were connected to said host computer, and such that image information generated by said host computer and sent in portions containing incremental changes can be viewed on a display of said client computer as if it was connected to said host computer.

21. A network accessible computer as recited in claim 1 wherein said host computer program is responsive to keyboard events and pointing device events of said client computer as transmitted to said host computer over said TCP/IP protocol network in conjunction with said client program running on said client computer, said host program transmitting said image information to said client computer over said TCP/IP protocol network for display in said browser window of said browser program running on said client computer.

22. A network accessible computer as recited in claim 21 wherein said image information includes web page information.

23. A network accessible computer as recited in claim 21 wherein said network accessible computer is operable to transmit said client program to said client computer over said TCP/IP network.

24. A network accessible computer as recited in claim 21 wherein said client program is a JAVA applet.

25. A method of providing a network accessible computer over a TCP/IP protocol network comprising:

providing a host computer connected to a TCP/IP protocol network, said host computer running a host computer program; and

providing a client computer having a display and input devices and running a client computer program and a web browser program, said client program being transmitted to said client computer via said network, where said client computer is connected to said TCP/IP protocol network wherein said client computer program facilitates the transfer of input device events from the client computer to the host computer such that the input devices of said client computer can be used to generate inputs to said host computer as if said input devices were connected to said host computer by sending signals through said network, and wherein image information may be displayed on a display within a window of said browser program running on said client computer as if said display were connected to said host computer by sending signals through said network.

26. The method of claim 25 wherein said host computer program is responsive to keyboard events and pointing device events of said client computer as transmitted to said host computer over said TCP/IP protocol network as facilitated by said client program running on said client computer.

27. The method of claim 26 wherein said host computer provides said client computer with said client computer program.

28. The method of claim 27 further comprising: transmitting encrypted information about said computer's screen to said client computer over said TCP/IP protocol network..

29. The method of claim 28 wherein said screen information is transmitted once a fixed period of time has transpired since the previous transmittal of said host computer's screen information.

30. The method of claim 29 further comprising:

receiving connection information by said host computer from said client program running on said client computer, where said host computer validates said connection information and extracts events from said connection information, where said events are placed in said host computer's event queue.

31. The method of claim 26 further comprising:

establishing a connection between said host computer and said client computer, said connection initiated by said client computer;

transmitting said client computer program from said host computer to said client computer over said TCP/IP protocol network, said client computer program operable to allow input devices of said client computer to generate inputs to said host computer;

transmitting client information from said client computer to said host computer over said TCP/IP protocol network, where said client information includes client interests, client resolution information, and client computer events; and

transmitting host computer screen information from said host computer to said client computer.